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IS 4300 (1989): Box Pallets for Through Transit of Goods
[TED 12: Freight Containers and Pallets]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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Indian Standard

**BOX PALLETS FOR THROUGH TRANSIT
OF GOODS — SPECIFICATION**

(First Revision)

भारतीय मानक

वस्तुओं के परिवहन के लिए बाक्स पैलेट — विशिष्ट

(पहला पुनरीक्षण)

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NEW DELHI 110002

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards on 23 November 1989, after the draft finalized by the Pallets Sectional Committee had been approved by the Heavy Mechanical Engineering Division Council.

The box pallets for through transit are those commonly used in industries from the starting site to the destination through various transporting means (such as railways, trucks and ships). This standard was first published in 1967 covering the requirements of box pallets for through transit of goods. This revision includes the changes in rated capacity, nominal size and units of the box pallets. The total height of the box pallets for various means of transportation has also been included in this revision.

In the preparation of this standard, assistance has been derived from JIS Z 0611-1977 'Box pallets for through transit', issued by the Japanese Industrial Standards Committee (JISC), Japan.

Indian Standard

BOX PALLETS FOR THROUGH TRANSIT OF GOODS—SPECIFICATION

(First Revision)

1 SCOPE

1.1 This Indian Standard specifies the box pallets mainly used (repeatedly) for through transit of goods.

2 REFERENCES

2.1 The following Indian Standards are necessary adjuncts to this standard:

<i>IS No.</i>	<i>Title</i>
3971 : 1967	Glossary of terms on pallets
5325 : 1989	Methods of test for box pallets for through transit of goods (<i>first revision</i>)
9340 : 1979	Specification for expandable pallets

3 TERMINOLOGY

3.1 For the purpose of this standard, the terms and definitions given in IS 3971 : 1967, in addition to the following shall apply.

3.2 Upper Structure

The frame, attached above the load carrying surface of the box pallet, which allows superimposition and consists of vertical side plates on at least three sides. These include the three types, namely fixed, demountable, and collapsible and some of these types are provided with a cover.

4 TYPES AND CLASSES

4.1 Types and Symbols

The types and symbols of the box pallets shall be as shown in Table 1.

4.2 Classes and Symbols

The classes and symbols of the box pallets shall be as shown in Table 2.

4.3 Maximum Payload

The maximum payloads of the box pallets shall be 5 kN and 10 kN.

5 DIMENSIONS

5.1 Main Dimensions

The length, width and height of the box pallets shall be as specified in Table 3 and Reference Table (*see* Fig. 1 and 2).

5.2 Height of Entries

The height of the entries shall be 100 ± 2 mm.

6 CONSTRUCTION AND QUALITY

6.1 Box pallets shall have a rectangular load carrying surface, for forks or the like, and an upper structure having vertical side plates on at least three sides. The load carrying surface shall be smooth.

6.2 Box pallets shall be free from defects such as harmful ruggedness and deformation and shall withstand repeated use.

6.3 Box pallets shall allow superimposition and their frames shall have a construction which prevents the freight from dropping out.

6.4 Collapsible type box pallets shall have such a construction that the folded-up parts fall within the dimensional ranges of $l/3$ and $b/3$.

6.5 Strength

The strength of the box pallets shall be such that there does not occur any deflection causing obstruction to their use harmful residual deflection, or abnormality in the respective parts during downward loading test, horizontal loading test, and superimposed loading test specified in IS 5325 : 1989.

Four box pallets shall be stacked in the superimposed loading test when the height of the box pallets is $\leq 1\,110$ mm; three when it is $> 1\,110$ mm and $\leq 1\,500$ mm and two when it is $> 1\,500$ mm.

7 MATERIAL

7.1 All materials used for box pallets (timber, steel, plastics or their combinations) shall be of good commercial quality, suitable for the method of construction and free from defects which may affect the strength of the finished products.

Table 1 Types and Symbols of Box Pallets
(Clause 4.1)

Type	Symbols	Remarks
Fixed type	BF	Load carrying section and upper structure rigidly connected with each other
Demountable type	BM	Upper structure capable of being detached when required
Collapsible type	BC	Upper structure capable of being folded up when required

Table 2 Classes and Symbols of Box Pallets
(Clause 4.2)

Class	Symbols	Remarks
Outside-frame	8 A	Size of load carrying surface being 800 × 1 100 mm
	11 A	Size of load carrying surface being 1 100 × 1 100 mm
Inside-frame	8 B	Size of load carrying surface being smaller than that of 8A by the wall thickness of frame
	11 B	Size of load carrying surface being smaller than that of 11A by the wall thickness of frame

Table 3 Dimensions for Box Pallets
(Clause 5.1 and Fig. 1 and 2)

All dimensions in millimetres.

Size		Class and Symbol			
		Outside-Frame Type		Inside-Frame Type	
		8 A	11 A	8 B	11 B
Length	l_1	800	1 100	800	1 100
	l_2 (Min)	800	1 100	750	1 050
	l_3 (Max)	860	1 160	840	1 140
Width	b_1	1 100	1 100	1 100	1 100
	b_2 (Min)	1 100	1 100	1 050	1 050
	b_3 (Max)	1 140	1 140	1 140	1 140
Reference Table					
Means of Transportation	National Railway Container	Freight Containers for International Trade, Van Type Truck		Exclusive Railway Wagon for Pallets	
Total Height					
h_1	Dimension obtained by subtracting the allowance for superimposition from total height (h_s).				
h_2	Dimension obtained by subtracting the allowance for superimposition and the height of load carrying surface from total height (h_s).				
h_3 (Max)	1 800	2 000	2 200		

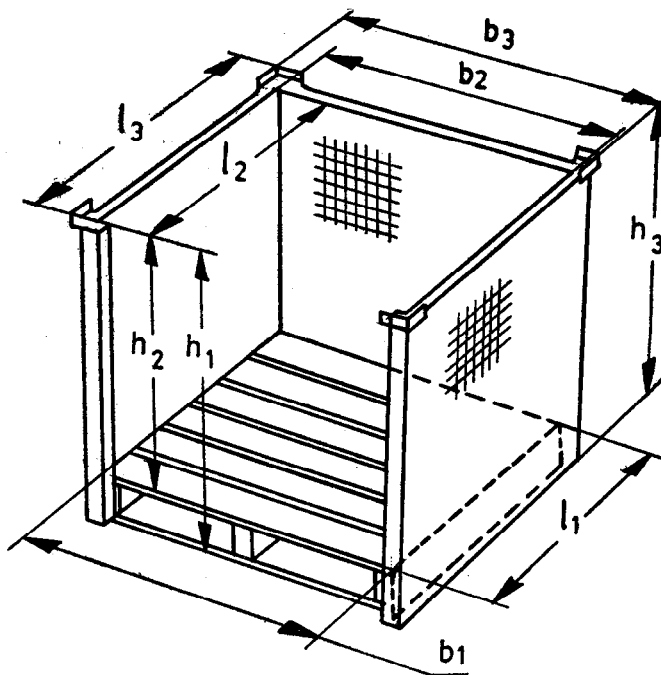


FIG. 1 OUTSIDE-FRAME TYPE

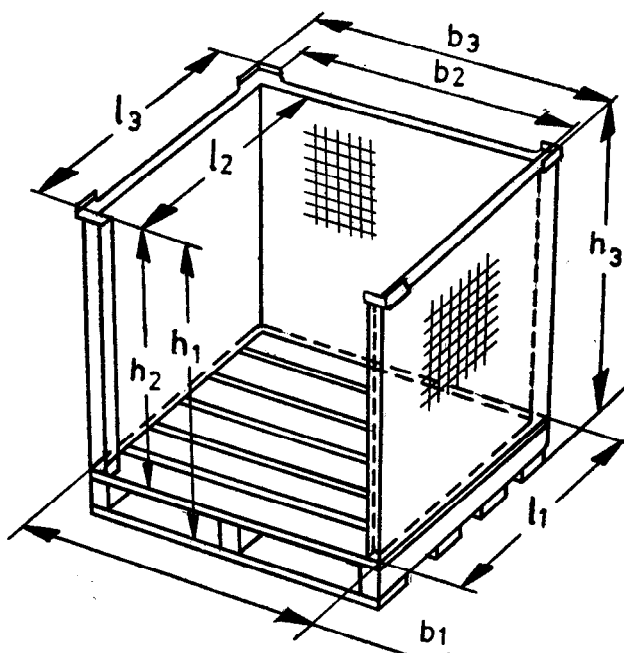


FIG. 2 INSIDE-FRAME TYPE

IS 4300 : 1989

7.2 If timber is used as one of the material for box pallets, its species shall be as per IS 9340 : 1979.

7.3 The moisture content of the timber used shall not exceed 20 percent.

8 APPEARANCE

8.1 Box pallets shall be free from cuts, cracks, strains, incomplete paint coatings, incomplete plated coatings, and the like harmful to their use.

9 TEST

9.1 The box pallets shall be tested according to IS 5325 : 1989.

10 DESIGNATION

10.1 Box pallets shall be designated according to

the title or number of the applicable standard, type, load, and class.

Example:

Box pallet — collapsible 10 kN outside-frame type 11 A.

or

IS 4300 : 1989 BC 10 kN 11 A

11 MARKING

11.1 Box pallets shall be marked with the following items of information at an easily visible location by an indelible method:

- a) Manufacturer's name or its symbol;
- b) Type, class, and maximum payload or its symbol; and
- c) Year and month of manufacture or symbol thereof.

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